

REMARKS

In the Office Action dated April 8, 2003, claims 43-68 are pending. Claims 43-58 and 61-68 are withdrawn from consideration as allegedly drawn to non-elected subject matter. Claims 59-60 are under examination. Claims 59-60 are provisionally rejected under the judicially created doctrine of double patenting over claims 47 and 52 of co-pending Application 08/765,588. Claims 59-60 are also provisionally rejected under the judicially created doctrine of double patenting over claim 46 of co-pending Application 09/349,954. Furthermore, claims 59 and 60 are rejected under 35 U.S.C. §112, second paragraph, as allegedly indefinite. Claims 59-60 are further rejected under the written description requirement of 35 U.S.C. §112, first paragraph. Moreover, claims 59-60 are rejected under 35 U.S.C. §112, first paragraph, as allegedly lacking enabling support. Additionally, claims 59-60 are rejected under 35 U.S.C. §102(b) as allegedly anticipated by Tischer et al. (U.S. Patent No. 5,194,596). The Examiner has also raised certain formal objections to the specification.

This Response addresses each of the Examiner's rejections and objections. Applicants therefore respectfully submit that the present application is in condition for allowance. Favorable consideration of all pending claims is therefore respectfully requested.

The Examiner has raised formal objections to the description of the drawings. In response, Applicants have amended the description of the drawings in accordance with 37 C.F.R. §1.84(u)(1). Withdrawal of the objection to the description of the drawings is therefore respectfully requested.

The Examiner also objects to the specification for an allegedly incorrect cross-reference to the filing date of the parent application. Applicants have amended the cross-reference section of the specification to include the correct filing date of the parent application.

Withdrawal of the objection to the cross-reference section of the specification is therefore respectfully requested.

The Examiner has also objected to the title as allegedly not descriptive. Applicants have replaced the title with the new title: "Isolated Nucleic Acid Molecules Encoding A VASCULAR ENDOTHELIAL GROWTH FACTOR (VEGF)". Applicants respectfully submit that the new title is descriptive of the present invention. Therefore, withdrawal of the objection to the title is therefore respectfully requested.

Claims 59-60 are provisionally rejected under the judicially created doctrine of double patenting over claims 47 and 52 and co-pending Application 08/765,588. Claims 59-60 are also provisionally rejected under the judicially created doctrine of double patenting over claim 46 of co-pending Application 09/349,954.

Applicants observe that these rejections are provisional because the conflicting claims have not in fact been patented. Applicants further observe that the conflicting co-pending applications and the present application are commonly owned, and therefore these non-statutory double-patenting rejections can be overcome by timely filing a terminal disclaimer. Withdrawal of the provisional double patenting rejections based on co-pending applications 08/765,588 and 09/349,954, respectively, is therefore respectfully requested.

Claims 59-60 are rejected under 35 U.S.C. §112, first paragraph, as allegedly containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. Specifically, the Examiner contends that the term "VEGF-B", as recited in the claims, is not described in the specification. Therefore, the Examiner contends that a claim to a nucleic acid encoding "VEGF-B" is new matter.

In this regard, Applicants have amended claims 59-60 to replace the term "VEGF-B" with the term "VEGF". Withdrawal of the rejection under 35 U.S.C. §112, first paragraph, based on the recitation of "VEGF-B", is therefore respectfully requested.

Claims 59-60 are further rejected under 35 U.S.C. §112, first paragraph, as allegedly failing to satisfy the written description requirement.

It is observed that the claims, as previously presented, are directed to nucleic acids which hybridize to SEQ ID NO: 3 under specified conditions, wherein the nucleic acid encodes a "VEGF-B molecule". The Examiner acknowledges that the specification describes VEGF molecules from two species (i.e., human and murine), including a number of splice variants. However, the Examiner argues that the specification does not provide a written description of the species or the genus which are encompassed by the instant claims, except for the nucleic acid of SEQ ID NO: 3. More specifically, the Examiner contends that the specification fails to define what is encompassed by a "VEGF-B molecule". The Examiner further states that the claims do not recite the full conditions to be used in the hybridization procedure, which would include the wash conditions. In addition, the Examiner states that the claims fail to recite relevant identifying physical, chemical or functional characteristics of the claimed molecule.

It is respectfully submitted that by way of the instant amendment, Applicants have amended claims 59-60 to include washing conditions for hybridization. Support for the hybridization and washing conditions is found in the specification, e.g., at page 7, lines 7-15, and page 24, lines 18-20. Applicants have also added functional characterizations of the VEGF polypeptide encoded by the claimed nucleic acid molecules in the claims. Support for the functional characterization of the encoded VEGF polypeptide is found throughout the specification, e.g., at pages 2-3. The nucleic acid molecules, as presently claimed, are clearly

identified by both the structural features (i.e., hybridization to specified sequence under the specified conditions), and the functional features. Applicants respectfully submit that the written description requirement of 35 U.S.C. §112, first paragraph, does not require actual reduction to practice of every aspect of the claimed invention, and that the nucleic acid molecules, as presently claimed, are adequately described in the specification in a manner that satisfies the written description requirement. Therefore, withdrawal of the rejection under the written description requirement of 35 U.S.C. §112, first paragraph, is respectfully requested.

Claims 59-60 are also rejected under 35 U.S.C. §112, first paragraph, as allegedly lacking enabling support. Specifically, the Examiner points out that the instant claims are directed to nucleic acid molecules which hybridize to SEQ ID NO: 3 and encode a "VEGF-B molecule". The Examiner contends that SEQ ID NO: 3 is a coding strand of DNA; therefore, molecules which hybridize to this coding strand would, by definition, be non-coding material.

Applicants have amended the claims such that the claimed nucleic acid molecule "hybridizes to the complement sequence of SEQ ID NO: 3" (emphasis added). As such, the rejection under the enablement requirement of 35 U.S.C. §112, first paragraph, is overcome. Withdrawal of the rejection is therefore respectfully requested.

In addition, claims 59 and 60 are rejected under 35 U.S.C. §112, second paragraph, as allegedly indefinite. The Examiner contends that the specification does not provide an assay to distinguish a "VEGF-B" protein from other VEGF molecules. Furthermore, the Examiner contends that the claims do no recite structural features that are unique to "VEGF-B", to the exclusion of other VEGF molecules. In addition, the Examiner contends that the stringency conditions recited in the claims are not complete.

Applicants respectfully submit that the claims as presently amended are not indefinite. Specifically, the present claims include hybridization and washing conditions, as well as functional characteristics of VEGF polypeptides encoded by the claimed nucleic acid molecules. It is respectfully submitted that the claims, as amended, distinguish the VEGF molecules of the present application from other VEGF molecules. Therefore, the rejection under 35 U.S.C. §112, second paragraph, is overcome. Withdrawal of the rejection is respectfully requested.

Finally, claims 59-60 are rejected under 35 U.S.C. §102(b) as allegedly anticipated by Tischer et al. (U.S. Patent No. 5,194,596).

Tischer et al. teach a nucleic acid molecule which encodes a VEGF protein (see Figure 7). According to the Examiner, such nucleic acid molecule taught by Tischer has 68% similarity to SEQ ID NO: 3 of the instant application over a span of 174 nucleotides. The Examiner contends that this molecule taught by Tischer would hybridize to SEQ ID N O: 3, and therefore, would meet the limitations of the instant claims.

Applicants respectfully submit that the VEGF-A molecule disclosed by Tischer would not hybridize to the nucleic acid molecule, as presently claimed, under the conditions presently recited in the claims. Therefore, it is respectfully submitted that the presently claimed nucleic acid molecules are not disclosed by Tischer et al. Withdrawal of the rejection under 35 U.S.C. §102(b) based on Tischer et al. is therefore respectfully requested.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance, which action is earnestly solicited.

Respectfully submitted,



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